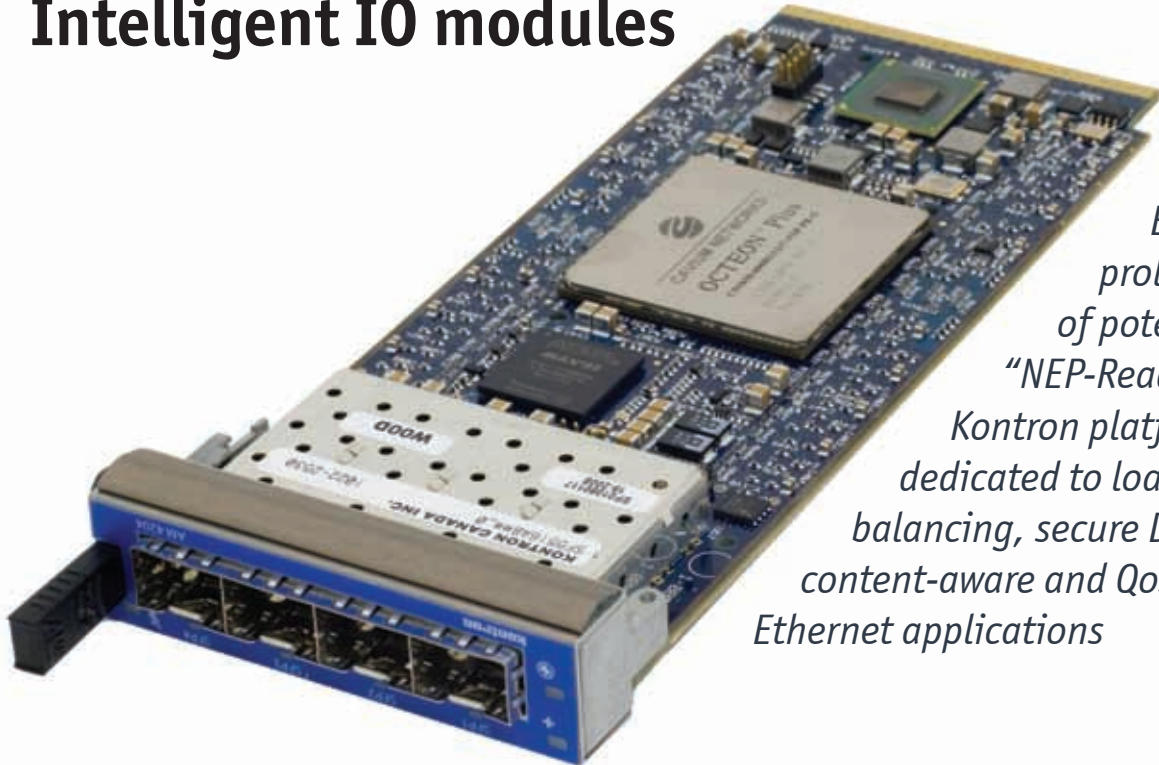




AM42xx

AdvancedMC Series of GbE/10GbE Intelligent IO modules



Enables a proliferation of potential "NEP-Ready" Kontron platforms dedicated to load-balancing, secure DPI, content-aware and QoS over Ethernet applications

AdvancedTCA / AdvancedMC / MicroTCA Open Modular Solutions

AM42xx AMC Series of GbE/10GbE Intelligent IO Modules Based on next-generation Cavium® Octeon™ Plus CN5650 multi-core packet processor

Kontron enhances its AdvancedTCA 10GbE portfolio with the introduction of the AM42xx series of AdvancedMC GbE/10GbE Intelligent IO modules based on the Cavium Networks OCTEON™ Plus CN5650 multi-core packet processors. The AM42xx AMC modules are optimized for layer 4 to 7 data and security processing, targeting access and service providers with 3G/4G BTS, RNC, xGSN and Media Gateways.

The Kontron AM4204 is the first in the series, featuring 4 x 1GbE ports to the front and software configurable interfaces to the Fabric side (PCIe, 4x 1GbE or XAUI). When integrated with an AdvancedTCA switch, the Intelligent IO module provides exceptional added functionality such as load balancing for Web Server, SIP Server, SSL Offload, and content- or application-aware processing applications. Likewise, it can support QoS over Ethernet for IPTV, video on demand and any other broadband media services.

The second module in the series is the Kontron AM4220, a 10GbE card with 2 x 10GbE to the front and PCIe to the fabric side. When integrated with a general purpose AdvancedTCA processor node, like the Kontron AT8020, the Intelligent IO module provides exceptional added functionality such as for wireless and wireline security packet inspection applications. Similar applications can be equally ported to Kontron MicroTCA integrated platforms, such as the OM5080 2U platform.

➤ Mid-size formfactor

➤ Cavium Octeon Plus 5650

- 12x MIPS64 R2 Cores; 600Mhz
- Up to 14.4 Billion MIPS64 instructions per second
- 16 high-speed SERDES, flexibly configured in blocks of 4
- Flexible combinations of PCI Express x4, x8, XAUI (10GE), SGMII (GbE/2GbE)
- Integrated coprocessors for application acceleration, including: Packet I/O processing, QoS, TCP Acceleration; Support for IPsec, SSL, SRTP, WLAN and 3G/UMB/LTE security (includes DES, 3DES, AES-GCM, AES up to 256, SHA1, SHA-2 up to SHA-512, RSA up to 8192, DH, KASUMI); and Compression/Decompression with up to 10Gbps throughput and highest compression ratios.

➤ Multiple Front Panel options:

- AM4204: 4x SFP GbE
- AM4220: 2x SFP+ 10GbE and Serial RJ45

➤ SW support

- Cavium CNUERS/CDK SDK support
- Wind River PNE LE support
- Optional 6WINDgate Software Suites

Technical Information

Compliance

- AMC.0 R2.0 Advance Mezzanine Card Base Specification
- AMC.1 R2.0 PCI Express and Advance Switching AMC.1 Type 4
- AMC.2 R1.0 AMC Gigabit Ethernet AMC.2 Type 4 E2 or Type 5 E2 (AM4220 AMC.2 type E2)
- IPMI v1.5.
- IEEE 802.3

Multi Processor Unit

- Cavium Octeon Plus CN5650 12 cores 600 MHz

Dual Gigabit Ethernet Controller

- Dual Gigabit Ethernet Controller Intel 82571EB
- PCIe 4-lane interface to Cavium Processor
- 2 1000Base-BX (Serdes) interfaces to AMC connector
- Serial Over Lan via SMB

Memory

- 1, 2 or 4 Gigabyte DDR2 Memory support with ECC 800MHz data rate (2GB standard)
- 128MB FLASH Memory
- USB Flash Disk up to 4 GB

IPMI Features

- IPMI 1.5 compliant
- Voltage and Temperature Sensors
- ATCA LED control
- FRU data storage for AMC
- Firmware Update handling for field upgrades, rollbacks and watchdog functions

Mechanical

- 181.5 x 73.8 x 18.96 mm, mid-size, single-width
- Weight: 240g

Power Requirements

- Management power is less than 500 mA
- Payload power < 40W

Environmental

	Operating	Storage and Transit
Temperature*:	0 to 55 °C / 32 to 131°F	-40 to 70°C / -10 to 158°F
Humidity*:	5% to 90% @55°C / 131°F non-condensing	5% to 95% @40°C / 104°F non-condensing
Altitude*:	4 000m / 13,123 ft	15 000m / 49,212 ft
Shock*:	30G, half-sine 11ms each axis	Belcore GR-63-CORE Section 4.3
Vibration*:	5-500Hz, 1G, each axis	5-50Hz, 2G; 50-500Hz, 3G each axis
Airflow:	Operating @ 12 CFM: 5°C to 45°C Operating @ 19 CFM: 5°C to 65°C	

* Designed to meet or exceed.

Reliability

MTBF: > 150 000 hours @ 30°C / 77°F (Telcordia SR-332, Issue1)

Safety / EMC

- Designed to meet or exceed:
- Safety: UL60950 3rd ED.; CSA C22.2 Ho 60950-00; EN 60950:2000; IEC60950-1
- EMI/EMC: FCC 47 CFR Part 15, Class B; CE Mark to EN55022/EN55024

Warranty

- Two years limited warranty

Operating System and Software Support

- Cavium SDK 1.7.x; WindRiver PNE LE 2.0; 6WindGate

Input/Output

Front I/O

- AM4204
 - 4 SFP cages to support multi-rate copper and fiber SFP modules
- AM4220
 - RJ45 RS232 interface
 - 2 SFP+ cages to support 1G or 10G SFP/SFP+ modules according IEEE 802.3

Rear I/O (AMC Connector)

- Port 0 and Port 1: 1000Base-BX
- Port 4 to Port 7: PCIe
- Port 8 to Port 11: 1000Base-BX or 10G-Base-BX4 (XAUI) (N/A on AM4220)
- Port 15: RS232 (mapping is controlled by CPLD)

Complementary "AMC Everywhere"- enabled Kontron AdvancedTCA / MicroTCA products

* Kontron AT8020 Processor Board (with AM4220)



- Dual Intel® Dual-Core Xeon®
- Support for up to 16GB SDRAM
- 2 X Mid-Size AdvancedMC bays
- Dual Dual-Gigabit on Fabric
- SAS interface available
- AM4220 adds exceptional functionality such as for wireless and wireline security packet inspection applications.

* Kontron AT8904 10GbE Switch (with AM4204)



- 10GbE service to redundant Hub Board
- 10GbE service to payload slots 2-15
- 1x 1000Base-T uplink on front panel
- Non-blocking Layer2 switching w VLANs
- AM4204 adds exceptional functionality such as load balancing for Web Server, SIP Server, SSL Offload, and content- or application-aware processing applications. Likewise, its can support QoS over Ethernet for IPTV, video on demand and any other broadband media services.

* Kontron OM5080 MicroTCA Carrier-Grade Platform (with AM4220)



- 2U 19" Carrier-Grade MicroTCA Platform
- Fault resilient design: no single point of failure
- Maximum space efficiency
- Management Module with system alarms and Uplink Modules on front
- AM4220 adds exceptional functionality such as for wireless and wireline security packet inspection applications.

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